

Attachment 3. CVs Applicants team

Norman Terry *Curriculum vitae*

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EDUCATION

Ph.D. Plant Physiology 1966

University of Nottingham, Nottingham, UK

M.Sc. Plant Physiology 1963

University of Nottingham, Nottingham, UK

B.Sc. Botany (Special Honors) 1961

University of Southampton, Southampton, UK

APPOINTMENTS

1989-present Professor*

Department of Plant and Microbial Biology, University of California at Berkeley

1984-1989 Professor*

Department of Plant and Soil Biology, University of California at Berkeley

1978-1984 Associate Professor*

Department of Plant and Soil Biology, University of California at Berkeley

1972-1978 Assistant Professor*

Department of Soils and Plant Nutrition, University of California at Berkeley

TEACHING

I currently teach two upper division courses. In the Fall Semester of each year, I teach *Plant Biology 135 (Physiological and Biochemical Plant Biology, 3 units)*. This course is designed for students majoring in plant biology and other students seriously interested in plant physiology and biochemistry. In the Spring Semester of each year I teach *Plant Biology 180 (Environmental Plant Biology, 2 units)*. This course provides a multidisciplinary approach to the interactions of plants with their environment.

RESEARCH ACTIVITIES

The first part of my research career centered on the study of the physiology and biochemistry of environmental stresses associated with water, mineral nutrients, salt (salinity), and toxic heavy metals. Since 1989 my research has focused on phytoremediation, the use of plants to clean up contaminated soil and water. My research approach is multidisciplinary in that my laboratory conducts research in ecology, plant physiology and biochemistry, microbiology, and molecular biology (including the genetic engineering of plants for enhanced phytoremediation). My major accomplishments include the development of the use of constructed wetlands to remove selenium and toxic heavy metals from agricultural and industrial wastewater, as well as the development of genetically engineered plants for the phytoremediation of selenium-contaminated soils. I have authored over 250 research publications, obtained 3 patents, and co-edited the book *Phytoremediation of Contaminated Soil and Water*, published by Lewis publishers, New York.

PATENTS

- Terry, N., Pilon-Smits, E.A.H., Zhu, Y.L. "Heavy metal phytoremediation" US Patent 6576816. 10 June 2003.
- Terry, N., Pilon-Smits, E.A.H., de Souza, M. "Trace element phytoremediation" US Patent 6974896. 13 Dec. 2005.
- Terry, N., Pilon-Smits, E.A.H., Zhu, Y.L. "Heavy metal phytoremediation" US Patent 7034202. 25 Apr. 2006.

RECENT PUBLICATIONS (2000 to present)

- Rao, I.M. and Terry, N. 2000. Photosynthetic adaptation to nutrient stress. *Chapter in: Probing Photosynthesis: Mechanism, Regulation and Adaptation.* M. Yunus, U. Pathre and P. Mohanty, eds. Taylor & Francis, London. Pp. 379-397.
- Zayed, A., Pilon-Smits, E.A.H., de Souza, M., Lin, Z. Q. and Terry, N. 2000. Remediation of Selenium-Polluted Soils and Waters by Phytovolatilization. *In: Phytoremediation of Trace Elements.* N. Terry and G. S. Bañuelos, eds. Ann Arbor Press, Michigan, pp. 61-84.
- Terry, N. and G. S. Bañuelos (eds.). 2000. *Phytoremediation of Trace Elements.* Lewis Publishers, Boca Raton. 389 pages.
- Terry, N., A.M. Zayed, M.P. de Souza and A.S. Tarun. 2000. Selenium in higher plants, *Ann. Rev. Plant Physiol. Plant Mol. Biol.*, 51:401-32.
- Lin, Z-Q., R.S. Schemenauer, V. Cervinka, A. Zayed, A. Lee and N. Terry. 2000. Selenium volatilization from the soil-*Salicornia bigelovii* Torr. treatment system for the remediation of contaminated water and soil in the San Joaquin Valley, *J. Environ. Quality*, 29:1048-1056.
- de Souza, M.P., C.M. Lytle, M. Mulholland, M.L. Otte and N. Terry. 2000. Selenium assimilation and volatilization from dimethylselenoniopropionate (DMSeP) by Indian mustard, *Plant Physiol.*, 122:1281-1288.
- Pilon-Smits, E.A.H., Y.L. Zhu, T. Sears, and N. Terry. 2000. Over-expression of glutathione reductase in *Brassica juncea*: Effects on cadmium accumulation and tolerance. *Physiol. Plant.*, 110:455-460.
- Terry, N. 2000. The San Francisco Bay Constructed Wetland Treatment System: The Use of Constructed Wetland Treatment Systems for the Removal of Toxic Trace Elements from Electric Utility Wastewater: Role of Vegetation. EPRI, Palo Alto, CA: 2000. 1000269, pp. 1-48.
- Terry, N. September, 2000. Final Report on USDA-ATUT Project WM-01, "Water-Fertility Management for Subsurface Drip Irrigated Wheat and Faba Bean", pp. 1-87.
- Terry, Norman. November, 2000. Final Report on NSF-EGYPT, Project #: BIO3-004-004, "Development of Plant-Microbe Interactions for the Phytoremediation of Heavy Metals in Contaminated Environments", pp. 1-4.
- Terry, Norman. December, 2000. Final Report on NSF-SGER Award #9900054, "Genetic Modification of Plants to Increase Their Capacity for the Removal of Se from Contaminated Soil", pp. 1-50.
- Lin, Z.-Q. and N. Terry. 2000. Use of flow-through constructed wetlands for the remediation of selenium in agricultural tile-drainage water. Salinity/Drainage Program, Report 96-7. Center for Water Resources, University of California, Riverside, California. p. 192-227.
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- Pilon-Smits, E.A.H., Y.L. Zhu, and N. Terry. 2000. Improved metal phytoremediation through plant biotechnology. *Tailings and Mine Waste '00*, Rotterdam., pp. 317-320.
- Terry, N. 2000. Proceedings of SOILREM 2000, The International Conference on Soil Remediation, Hangzhou, China, October 2000. "Phytoremediation of Se in Soil and Water", pp. 1-6.
- Whiting, S.N., M.P. de Souza, and N. Terry. 2001. Rhizosphere bacteria mobilize Zn for hyperaccumulation by *Thlaspi caerulescens*. *Environ. Sci. Technol.*, 35:3144-3150.
- Hale, K.L., S. McGrath, E. Lombi, S. Stack, N. Terry, I.J. Pickering, G.N. George, and E.A.H. Pilon-Smits. 2001. Molybdenum sequestration in *Brassica*: A role for anthocyanins? *Plant Physiol.*, 126:1391-1402.
- Ye, Z., S.N. Whiting, Z.Q. Lin, C.M. Lytle, J.H. Qian, and N. Terry. 2001. Removal and distribution of Fe, Mn, Co and Ni within a Pennsylvania constructed wetland treating coal combustion by-product leachate. *J. Environ. Qual.*, 30:1464-1473.
- Lee, A., Z.Q. Lin, I. Pickering, and N. Terry. 2001. X-ray absorption spectroscopy study shows that the rapid selenium volatilizer, pickleweed (*Salicornia bigelovii* Torr.) reduces selenate to organic forms without the aid of microbes. *Planta*, 213:977-980.
- de Souza, M.P., A. Amini, M.A. Dojka, I.J. Pickering, S.C. Dawson, N.R. Pace, and N. Terry. 2001. Identification and characterization of bacteria in a selenium-contaminated hypersaline evaporation pond. *Appl. Environ. Microbiol.* 67:3785-3794.
- Ye, Z.H., S.N. Whiting, J.H. Qian, C.M. Lytle, Z.-Q. Lin, and N. Terry. 2001. Trace element removal from coal ash leachate by a 10-year old constructed wetland. *Journal of Environmental Quality*, 30:1710-1719.
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- Terry, N. 2001. *The Allegheny Power Services Constructed Wetland at Springdale: The Role of Plants in the Removal of Trace Elements*. EPRI, Palo Alto, CA:2001. 1006504, pp. 1-46.
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- Terry, N. 2001. Use of flow-through constructed wetlands for the removal of selenium in agricultural tile-drainage water. In: U.C. Salinity/Drainage Task Force, Division of Agriculture and Natural Resources, University of California (Annual Report for 2000-2001).
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Banuelos, G.S., Lin, Z.Q., Wu, L., and Terry, N. 2002. Phytoremediation of selenium-contaminated soils and waters: fundamentals and future prospects. *Rev. Environ. Health.* 17:291-306.

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Terry, N. 2002. Proceedings of the 5th Workshop on Sulfur Assimilation in Higher Plants, Montpellier, France, April 11-14, 2002. "Selenium - The Black Sheep of the Sulfur Family!"

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- Terry, N., Sambukumar, S.V., LeDuc, D.L. 2003. Biotechnological approaches for enhancing phytoremediation of heavy metals and metalloids. *Acta Biotechnologica*, 23:281-288 (Invited article which was peer reviewed).
- LeDuc, D.L. and Terry, N. 2003. Physiological and environmental significance of selenium. In *Sulfur Transport and Assimilation in Plants. Regulation, Interaction, and Signaling*. Eds. J.-C. Davidian, D. Grill, L.J. DeKok, I. Stulen, M.J. Hawkesford, E. Schnug, and H. Rennenberg. pp. 79-89. Backhuys Publishers, Leiden, The Netherlands. (Invited article which was peer reviewed).
- Nakayama, H. and N. Terry. 2003. Novel Strategies to Develop Heavy Metal, Plant Pathogen, and Insect Resistant Transgenic Plants for Phytoremediation. EPRI, August 1, 2003. (EPRI Grant proposal entitled: Genetic Engineering of Novel Genes to Generate Transgenic Plants with Superior Potential for Phytoremediation and Pathogen Defense).
- Tagmount, M. and N. Terry. 2003. Developing Heavy Metal and/or Oxidative Stress Resistant Transgenic Plants by Overexpressing Genes Identified by Complementation of the Yeast *yap1* Mutant. EPRI Report, August 2003. (EPRI Grant proposal entitled: Genetic Engineering of Novel Genes to Generate Transgenic Plants with Superior Potential for Phytoremediation and Pathogen Defense).
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Terry, N. 2005. Proceedings of the 8th International Conference on the Biogeochemistry of Trace Elements, 3 - 7 April 2005, Adelaide, Australia. "Overexpressing Both ATP Sulfurylase and Selenocysteine Methyltransferase Enhances Selenium Phytoremediation by Indian Mustard" (invited paper).

Terry, N. 2005. Proceedings of the 10th Congress of the Brazilian Society of Plant Physiology and the XII Latin American Congress on Plant Physiology (Uruguay, Argentina, Brazil and Chile), 11-16th September 2005 in Recife, Brazil. "Phytoremediation of Toxic Trace Elements from the Molecular to the Field Scale" (invited paper).

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Huang, JC, Verce, MV, Stiles, A., Terry, N., 2010. Development of a Constructed Wetland Water Treatment System for the Salton Sea Species Conservation Habitat – A Review. *Report prepared for the California Department of Water Resources Salton Sea Species Conservation Habitat Project*. August 29, 2010.

Stiles AR, Liu C, Kayama Y, Wong J, Doner H, Funston R, Terry N. 2011. Evaluation of the boron tolerant grass, *Puccinellia distans*, as an initial vegetative cover for the phytoremediation of a boron-contaminated mining site in Southern California. *Environ Sci Technol.*, 45: 8922-7.

Matthew F. Verce, Amanda R. Stiles, Karen C. Chong, Norman Terry. 2012. Isolation of an extremely boron-tolerant strain of *Bacillus firmus*. *Canadian Journal of Microbiology*, 58(6): 811-814.

Priya Padmanabhan, Mehmet Babaoğlu and Norman Terry. 2012. A comparative transcriptomic analysis of the extremely boron tolerant plant *Puccinellia distans* with the moderately boron tolerant *Gypsophila arrostil*". *Plant Cell Reports*, 31(8): 1407-1413

Stiles, A.R., Liu, Ch., Tran, H., Liu, J., Funston, R., Terry, N. 2012. Boron-Tolerance of Native Mojave Desert Plant Species: Implications for the Phytoremediation of a Boron-Contaminated Mining Site. *Environmental Science and Technology (in preparation)*

Jung-Chen Huang

Curriculum vitae

Department of Plant and Microbial Biology, University of California, Berkeley
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EDUCATION

- Ph.D, Natural Resources** **2010**
The Ohio State University, Columbus, OH.
- M.Sc. Geography** **2003**
National Taiwan University, Taipei, Taiwan.
- B.Sc. Geography** **1998**
National Taiwan University, Taipei, Taiwan.
- B.Sc. Civil Engineering** **1998**

ACADEMIC AND TEACHING EXPERIENCE

- Postdoctoral fellow in the Department of Plant and Microbial Biology at the University of California, Berkeley, CA USA, April 2010-Present
 - UC Berkeley Salton Sea Research Project
 - *Phytoremediation of selenium in wetland ecosystems at the Salton Sea, CA USA.*
- Research assistant and teaching assistant at the Olentangy River Wetland Research Park (ORWRP) at the Ohio State University, OH USA, September 2005-September 2009.
 - Living machine, OH USA, January 2006 - March 2006 (Class project)
 - *Design of an indoor living machine for wastewater treatment.*
 - Post-Hurricane Katrina Community plans for Pineville, MS, June 2007 -May 2007.
 - *Ecological planning for the downstream riparian area of Wolf River.*
 - Ecological restoration of Grave Creek on the Ohio State University Marion campus, OH, May 2007 - May 2008.
 - *Channel design for dechannelization of Grave Creek.*
 - *Design of a riparian wetland for research, teaching, conservation and river water quality improvement.*
 - Interactions between a stream channel and a riparian wetland, OH, December 2007 - May 2009.
 - *Design and construction of reconnection between a riparian wetland and an experimental channel at the ORWRP.*
 - *Simulation of natural flood pulses to restore wetland functions such as downstream water quality improvement.*
 - Effects of different channel forms on water quality and ecosystem structure, OH, October 2007 - May 2009.
 - *Design of three experimental streams for simulating headwater stream restoration at the ORWRP.*
- Research Assistant in Water Environment Research Center (WERC), NTUT, Taipei, Taiwan, Jan. 2003-May 2005.

- The Application of Constructed Wetlands and Artificial Floating Islands in Kinmen, Taiwan, May 2004 - May 2005.
 - *Design and construction of a constructed wetland for wastewater treatment.*
 - *Design and construction of two artificial floating islands for wastewater treatment.*
- The Establishment of Ecological Engineering Parameters in Reservoir Watershed, Taiwan, March 2004 - May 2005.
 - *Design of a circular experimental channel for monitoring fish behavior.*
- Restoration of Neigou River, Taiwan, March 2004 - May 2005.
 - *Channel design for dechannelization of Neigou River through the urban area in Taipei.*
 - *Ecological design of riverbanks.*
 - *Design of a riparian wetland for river water quality improvement and species conservation.*
- Community Participation in Wetland Construction-A Case Study of Tatun and Masu communities, Taiwan, October 2003 - December 2003
 - *Design and construction of two wetlands for demonstration and species conservation.*
- The Watershed Management of the Masu River, Taiwan, February 2003 - November 2003.
 - *Design and construction of a series of wetlands for mine drainage water treatment.*
- The Establishment of Eco-park based on The Restoration of The Derelict Land. Case Study, Fu Bao Eco-Park, Taiwan, September 2000 - January 2003.
 - *Design and planning of coastal wetlands for migrating waterfowls.*
- Lecturer, National Open University, Taipei, Taiwan, February 2003 - July 2003.
- Substitute Teacher of Taipei County Tzyh Chang Junior High School, Taipei, Taiwan, February 2002 - July 2002.
- Coastal Habitat Manager, Taiwan Environmental Protection Union, Changhua, Taiwan, September 2001 - May 2002.

PRESENTATIONS AND PUBLISHED ABSTRACTS

Huang, J. C., 2010. Estimating interactions between a stream channel and a diversion wetland at the Olentangy River Wetland Research Park, Ohio USA. The Ecological Society of America Annual meeting. 1-8 August 2010, Pennsylvania, USA Pittsburgh.

Huang, J. C., 2009. Interactions between a stream channel and a riparian wetland at the Olentangy River Wetland Research Park, Ohio USA. 2009 Society of Wetland Scientists Annual meeting. 21-26 June 2009, Wisconsin, USA.

Huang, J. C., 2007. Ecological restoration of a stream on a college campus in central Ohio. Ecohydrological Processes and Sustainable Floodplain Management Opportunities and Concepts for Water Hazard Mitigation, and Ecological and Socioeconomic Sustainability. 19-23 May 2008, Lodz, Poland.

Huang, J. C., 2004. The Application of Artificial Floating Island in Kinmen. Islands of the World : Changing Islands- Changing Worlds. Kinmen, Taiwan. 2004.

PUBLICATIONS

Huang, J. C., E. Passeport, N. Terry. 2012. Development of a constructed wetland water treatment system for selenium removal: use of mesocosms to evaluate design parameters. Environmental Science and Technology (*in press*).

Huang, J. C., W.J. Mitsch, and D.L. Johnson. 2011. Estimating biogeochemical and biotic interactions between a stream channel and a created riparian wetland: A medium-scale physical model. *Ecological Engineering* 37:1035–1049.

Huang, J. C., Verce, MV, Stiles, A., and Terry, N., 2010. Development of a Constructed Wetland Water Treatment System for the Salton Sea Species Conservation Habitat – A Review. *Report prepared for the California Department of Water Resources Salton Sea Species Conservation Habitat Project*. August 29, 2010.

Huang, J. C., W.J. Mitsch, and A.D. Ward, 2010. Design of experimental streams for simulating headwater stream restoration. *J. American Water Resources Association* 46: 957-971.

Zhang, L., and J. C. Huang. 2009. Ecological engineering for watershed ecosystem management in China. *Journal of Sichuan forestry science and technology* 30: 23-24. (in Chinese)

Huang, J. C., W. J. Mitsch, and L. Zhang. 2009. Ecological restoration of a stream on a college campus in central Ohio. *Ecological Engineering* 35: 329–340.

Cowley, J., B. Cowell, J. C. Huang, S. Das, R. Mathur, B. Warren, J. Washco, and A. Willis. 2007. Community Plan for Pineville, Harrison County, Mississippi. The Mississippi Department of Environmental Quality.

Chen, Y.-C., J.-Y. Lin, E.H. Tsao, J.-C. Huang. 2005. Minimum flow estimated by the Froude number. In: *World Water & Environmental Resources Congress 2005*, Anchorage.

Lin, J. Y., Y. C. Chen, and J. C. Huang. 2005. Community Participation in Wetland Construction-A Case Study of Tatan and Masu communities. *Water Resources Bureau, Taiwan. Sustainable Development Newsletter* 14: 20-25. (In Chinese)

Lin, J. Y., and J. C. Huang. 2004. BMPs for the Mine Drainage-A Case Study of the Clay Mine in the Masu River. *Journal of Taiwan Water Conservancy* 52: 39-48. (In Chinese)

HONORS AND AWARDS

- Outstanding Award in the Contest of Planning of Chang Hua Coastal Industrial Park of Industrial Development Bureau, 2002.
 - *Design of coastal wetlands in the park for species conversation and environmental education.*
- Outstanding Award in the Contest of Revivification of the Historic Building in Taiwan of Council for Cultural Affairs, 2002.

RESEARCH FELLOWSHIPS

- Young Scientists Summer Program (YSSP) Fellowship, The International Institute for Applied Systems Analysis (IIASA), 2008

Soo In Yang

Curriculum vitae

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E-mail: sooin@berkeley.edu

EDUCATION

| | |
|--|-------------|
| Ph.D. Geological Sciences | 2011 |
| <i>University of Saskatchewan, Canada</i> | |
| M.Sc. Applied Microbiology and Food Science | 2007 |
| <i>University of Saskatchewan, Canada</i> | |
| B.Sc. Biological Resources and Technology | 2001 |
| <i>Yonsei University, South Korea</i> | |

RESEARCH EXPERIENCE

- Biotransformation and interactions of selenium with mixed and pure culture biofilms
- Cloning, expression, and characterization of lactic acid bacteria recombinant prolidases

RESEARCH EXPERTISE

Microbiology; Enzymology; Gene cloning and expression; Confocal laser scanning microscopy (CLSM); Transmission electron microscopy (TEM); Synchrotron techniques including X-ray absorption spectroscopy (XAS), X-ray fluorescence imaging (XRF) and Scanning transmission X-ray microscopy (STXM).

SYNCHROTRON TRAINING/EXPERIENCE

Six years experience at the Advanced Light Source (Berkeley, CA, USA; 4.0.2.), Advanced Photon Source (Argonne, IL, USA; 2-ID-D), Canadian Light Source (Saskatoon, SK, Canada; HXMA, SGM, SM), and Stanford Synchrotron Radiation Lightsource (Menlo Park, CA, USA; BL2-3, BL7-3, BL9-3, BL10-2).

PUBLICATIONS

GS Bañuelos, SS Walse, SI Yang, IJ Pickering, SC Fakra, MA Marcus and JL Freeman (2012) Quantification, localization and speciation of selenium in seeds of canola and two mustard species compared to seed-meals produced by hydraulic press. *Analytical Chemistry*. 84: 6024-6030.

GS Bañuelos, C Stushnoff, SS Walse, T Zuber, SI Yang, IJ Pickering, and JL Freeman (2012) Bio-fortified, selenium enriched, fruit and cladode from three *Opuntia* Cactus pear cultivars grown on agricultural drainage sediment for use in nutraceutical foods. *Food Chemistry*. 135: 9-16.

SI Yang, JR Lawrence, IJ Pickering (2011) Biotransformation of selenium and arsenic in multi-species biofilm. *Environmental Chemistry*. 8: 543-551. *Selected as 'Highlight Issue' of year 2011.*

CF Quinn, CN Prins, AM Gross, RJB Reynolds, JL Freeman, SI Yang, PA Covey, GS Bañuelos, IJ Pickering, S Fakra, MA Marcus, PA Bedinger, HS Arathi and EAH Pilon-Smits (2011) Selenium accumulation in flowers and its effects on pollination. *New Phytologist*. 192: 727-737.

GS Bañuelos, SC Fakra, SS Walse, MA Marcus, SI Yang, IJ Pickering, EAH Pilon-Smits and JL Freeman (2011) Selenium accumulation, distribution and speciation in spineless prickly pear cactus: a drought and salt tolerant, Se enriched nutraceutical fruit crop for biofortified foods. *Plant Physiology*. 155: 315-327.

SI Yang, JR Lawrence and IJ Pickering (2010) Biotransformation of selenium in multispecies biofilm. *Geochimica et Cosmochimica Acta*. 74: A1176-A1176.

SI Yang, T Tanaka (2008) Characterization of recombinant prolidase from *Lactococcus lactis*— changes in substrate specificity by metal cations, and allosteric behaviour of the peptidase. *FEBS Journal*. 275: 271-280.

SI Yang, GN George, JR Lawrence, JJ Dynes, SGW Kaminskyj and IJ Pickering (2012) Multispecies biofilms biotransform selenium oxyanions into nano particles. *Proceedings of the National Academy of Sciences*. In preparation.

R Schmidt, KR Hristova, P Tantoyotai, SC Fakra, MA Marcus, SI Yang, IJ Pickering, GS Bañuelos and JL Freeman (2012) Selenium bioaccumulation and biotransformation inside a constructed aquatic ecosystem for agriculture drainage water remediation and Se-enriched brine shrimp production. *PLoS One*. In preparation.

PRESENTATIONS (INTERNATIONAL CONFERENCES)

IJ Pickering*, MG Gallegos, JJ Tse, SI Yang, GN George (2011). Synchrotron studies of selenium in the environment and health. Invited keynote oral presentation, *Second International Conference on Selenium in the Environment and Human Health*. Suzhou, China.

IJ Pickering*, M Korbas, TC MacDonald, MJ Pushie, JJ Tse, SI Yang, GN George, I Coulthard (2011). From anatomic to atomic: Synchrotron imaging and speciation of inorganic elements from the environment to human health. Keynote oral presentation, Metal Toxicity and Resistance, *Fifteenth International Conference on Bioinorganic Chemistry (ICBIC-15)*. Vancouver, Canada.

SI Yang*, GN George, JR Lawrence, JJ Dynes, B Lai, SGW Kaminskyj, IJ Pickering (2011). Selenium biotransformation in biofilm: An approach using synchrotron based hard and soft X-ray imaging techniques. Poster presentation. *Applied and Environmental Microbiology-Functional Interactions from Molecules to Biomes*, Gordon Research Conference. July, South Hadley, MA, USA.

IJ Pickering*, SI Yang, JR Lawrence, JJ Dynes, SGW Kaminskyj and GN George (2011) Synchrotron studies of selenium sequestration in biofilms. Invited oral presentation. *Georgian Bay International Conference on Bioinorganic Chemistry*. May, Parry Sound, ON, Canada.

SI Yang*, JR Lawrence, SGW Kaminskyj, IJ Pickering (2010) Biotransformation of selenium in multispecies biofilms. Oral presentation. *Goldschmidt Conference*. June, Knoxville, TN, USA.

SI Yang*, T Tanaka (2007) Soluble expression and characterization of recombinant proline-specific metalloprotease from *Lactococcus lactis*. Poster presentation. *American Society for Microbiology General Meeting*. May, Toronto, ON, Canada.

*Presenting author

INVITED PRESENTATIONS

SI Yang (2011) Biofilms biotransform selenium oxyanions. Oral presentation (invited). *Canadian Light Source Annual Users' Meeting*. June, Saskatoon, SK, Canada.

SI Yang (2010) Biotransformation of selenium in multispecies biofilms. Oral presentation (invited). *Canadian Institute of Health Research-Training Grant in Health Research Using Synchrotron Techniques (CIHR-THRUST)*. June, Saskatoon, SK, Canada.

SELECTED RECENT SYNCHROTRON GENERAL USER PROPOSALS (AWARDED)

Advanced Photon Source (APS), Argonne, IL, USA, 2-ID-D beamline proposal: 18 shifts (144 hours) of beamtime were allocated with 'extraordinary scientific rate' (spokesperson: Soo In Yang, year 2010, proposal ID 21188); co-investigators: Ingrid J. Pickering, John R. Lawrence, and Susan G.W. Kaminskyj.

Canadian Light Source (CLS), Saskatoon, SK, Canada, SM beamline proposal: 6 shifts (48 hours) of beamtime were allocated with 'excellent scientific score' (spokesperson: Soo In Yang, year 2010, proposal ID 12-2677); co-investigators: Ingrid J. Pickering, John R. Lawrence, and Susan G.W. Kaminskyj.

María Cristina Suárez Rodríguez
Curriculum vitae

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EDUCATION

| | |
|---|-------------|
| Ph.D. Plant Breeding and Plant Genetics | 2007 |
| <i>University of Wisconsin, Madison.</i> | |
| M.Sc in Developmental Biology | 2002 |
| <i>California State University, Fresno.</i> | |
| B.Sc. in Biological Sciences | 1998 |
| <i>Universidad Nacional de Colombia-Bogotá.</i> | |

RESEARCH EXPERIENCE

Postdoctoral scholar at University of California- Berkeley. Phytoremediation of Boron contaminated wastewater from electric utility power plants. Phytoremediation of the Rio Tinto BORAX mining site. Department of Plant and Microbial Biology

Postdoctoral scholar at the University of Copenhagen. ERA-ERPG Consortium for Multi-stress studies in *Arabidopsis thaliana*. Annotator-curator of MAPK signaling components in the *Selaginella moellendorffii* genome. Pyrosequencing the transcriptome of *Craterostigma plantagineum* a model for plants desiccation tolerance. *Pseudomonas* and *Botrytis* pathogenicity testing in *Arabidopsis* mutants.

Doctoral Studies in Plant Breeding and Plant Genetics as a Research Assistant in the Horticulture Department of the University of Wisconsin, Studies of plant stress signaling.

Research Assistant in the Biology Department of CSUFresno, Programmed Cell Death in *Arabidopsis thaliana*.

Research Assistant in the Cassava Genetics Unit of CIAT (International Center for Tropical Agriculture, Cali Colombia), Cassava Genetics of Agronomic Traits.

Bachelor's Internships in "Microbiological, biochemical and molecular characterization of Colombian native strains of *Bacillus thuringiensis*". "Isolation of the capsidic protein of Banana Streak Virus" (Colombian Corporation for agricultural research, CORPOICA, its Spanish acronym)

PUBLICATIONS

Suárez, M.C., Bernal, A., Gutiérrez, J., Tohme, J., Fregene, M. (2000). Developing Expressed sequence tags (ESTs) from polymorphic transcript-derived fragments (TDFs) in cassava *Manihot esculenta* Crantz. *Genome*. 43,1. 62-67.

Fregene M., E. Okogbenin, C. Mba, F. Angel, Maria Cristina Suárez, Gutierrez Janneth, P. Chavarriaga, W. Roca, M. Bonierbale, and J. Tohme (2001). Genome Mapping in Cassava Improvement: Challenges, Achievements and Opportunities. *Euphytica* 120, 1 p. 159 - 165

Fregene MA, Suarez M, Mkumbira J, Kulembeka H, Ndedya E, Kulaya A, Mitchel S, Gullberg U, Rosling H, Dixon AG, Dean R, Kresovich S. (2003) Simple sequence repeat marker diversity in cassava landraces: genetic diversity and differentiation in an asexually propagated crop. *Theor Appl Genet*. Oct;107(6):1083-93.

Suarez-Rodriguez, MC, L Adams-Phillips, Y Liu, H Wang, S Su, PJ Jester, S Zhang, AF Bent, and PJ Krysan. (2007). MEKK1 is required for flg22-induced MPK4 activation in *Arabidopsis* plants. *Plant Physiol*. 2007 Feb;143(2):661-9. Epub 2006 Dec 1

Su SH, Suarez-Rodriguez MC, Krysan P. (2007) Genetic interaction and phenotypic analysis of the Arabidopsis MAP kinase pathway mutations *mekk1* and *mpk4* suggests signaling pathway complexity. *FEBS Lett*. 2007 Jul 10;581(17):3171-7.

Qiu JL, Fiil BK, Petersen K, Nielsen HB, Botanga CJ, Thorgrimsen S, Palma K, Suarez-Rodriguez MC, Sandbech-Clausen S, Lichota J, Brodersen P, Grasser KD, Mattsson O, Glazebrook J, Mundy J, Petersen M. (2008) *Arabidopsis* MAP kinase 4 regulates gene expression through transcription factor release in the nucleus.. *EMBO J*. Aug 20;27(16):2214-21.

Rodriguez MC, Edsgard D, Rasmussen M, Gilbert T, Nielsen HB, Mundy J, Bartels D (2010) Transcriptomes of the desiccation tolerant resurrection plant *Craterostigma plantagineum*. *Plant Journal* Jul;63(2):212-28.

Maria Cristina Suarez Rodriguez, Morten Petersen, and John Mundy (2010) Mitogen-Activated Protein Kinase Signaling in Plants. *Annu. Rev. Plant Biol*. Vol. 61: 621-649.

Meeting talks:

PBD Plant Biotech in Denmark Feb. 2008. The MPK4 Map kinase cascade in plant innate immunity in *Arabidopsis*

PBD Plant Biotech in Denmark Feb. 2009. Pyrosequencing transcriptomes from ancient maize and resurrection plants

Poster presentations:

Suárez, M.C., Bernal, A., Gutiérrez, J., Tohme, J., Fregene, M. 1999. Developing Expressed sequence tags (ESTs) from polymorphic transcript-derived fragments (TDFs) in cassava (*Manihot esculenta* Crantz). Inauguration of the Latin American association for cassava. CIAT 1999

Maria Cristina Suarez R., Peter Jester, Patrick Krysan. 2005 Reverse Genetics Analysis of the *Arabidopsis* MapKinase Kinase Kinase *AtMEKK1*. 16th International Conference in *Arabidopsis* Research 2005.

Maria Cristina Suarez, Lori Adams-Phillips, Shih-Heng Su, Peter Jester, Andrew Bent, Patrick Krysan. MEKK1 is a Negative Regulator of Stress Responses in Arabidopsis, but this Function does not Require the Protein's Kinase Activity. 17th International Conference on Arabidopsis Research 2006.

Maria Cristina Suarez-Rodriguez, Lori Adams-Phillips, Yidong Liu, Huachun Wang, Shih-Heng Su, Peter J. Jester, Shuqun Zhang, Andrew F. Bent, and Patrick J. Krysan. MEKK1 kinase impaired mutant suggests a scaffolding function that is required for MPK4 activation in Arabidopsis. Twenty-Fourth Annual Missouri Plant Bio Symposium Plant Protein Phosphorylation-Dephosphorylation. May 22-24, 2007.

TEACHING EXPERIENCE

Instructor at the training course of molecular techniques applied to the Identification of disease resistance in crops. CIAT. Cali. Colombia

Teaching associate in the course Bio10. Biology Department CSUFresno.

Instructor in Genetics and Gene tagging Laboratory. Plant Molecular Biology course University of Copenhagen.

AWARDS

Honored Undergraduate Thesis. 1998

ERPG Reaserch Grant from the Student Association of California State University at Fresno. 2002.